

### CLAIMS

1. A method for reducing the contamination properties by micro-organisms of a surface made of a mineral material, said surface having an area of at least 0,1 m<sup>2</sup>, said method including the following steps :
- 5 a) application, onto the surface to be treated, of a layer of a solution or of an aqueous suspension of a hydrophilic polymeric material ;
- b) drying the surface processed at the step a), for obtaining said surface covered with a layer of said hydrophilic polymeric material.
- 10 2. A method according to claim 1, characterised in that the mineral material is organic glass or mineral glass.
3. A method according to claim 1, characterised in that the mineral material is selected among ceramics, porcelain, cement or concrete.
- 15 4. A method according to claim 1, characterised in that the mineral material is a metallic material, such as steel or aluminium.
- 20 5. A method according to any of the claims 1 to 4, characterised in that the surface of mineral material consists in the surface of a soil, of a culinary work top, of a table, of a bed, of a reactor, or still of a tubing.
6. A method according to any of the claims 1 to 5, characterised in that, in step a), the solution or the aqueous suspension includes the hydrophilic polymeric material at a concentration ranging between 0.5% and 5% in weight, preferably between 1% and 3% in weight, based on the total weight of the solution or of the aqueous suspension.
- 25 7. A method according to claim 6, characterised in that the hydrophilic polymeric material is selected among the celluloses and their derivatives, the polyacrylamides and their copolymers, the polyvinyl pyrrolidone (PVP) and its copolymers, the vinyl acetate copolymers and vinyl alcohol copolymers, the glycol polyethylenes, the glycol polypropylenes, the
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hydrophilic polyacrylates, the hydrophilic polymethacrylates, the polyosides and the chitosans.

5 8. A method according to any of the claims 1 to 7, characterised in that the solution or suspension of hydrophilic polymeric material includes moreover silica particles dispersed in the aqueous medium.

9. A method according to claim 8, characterised in that the solution or suspension of hydrophilic polymeric material has a content of silica particles  
10 ranging from  $50\text{g.l}^{-1}$  to  $250\text{g.l}^{-1}$ .

10. Method according to any of the claims 1 to 7, characterised in that in step a), the application of the hydrophilic polymeric material is conducted by quenching the surface to be treated, or by application of the material onto  
15 the surface using a brush, a roll or a spraying device.

11. A composition for the treatment of a surface having an area of at least  $1\text{ m}^2$  against contamination by micro-organisms, characterised in that said composition consists of an aqueous solution of a hydrophilic polymeric material, said composition including silica particles with a final content  
20 ranging from  $50\text{g.l}^{-1}$  to  $250\text{g.l}^{-1}$ , and including at least one bactericidal agent or a preservative agent.

12. A surface of a mineral material having an area of at least  $1\text{ m}^2$  and  
25 resistant to contaminations by micro-organisms, characterised in that said glass, ceramics or steel surface is covered with a layer of a hydrophilic polymeric material.

13. A surface according to claim 11, characterised in that the layer of  
30 hydrophilic polymeric material includes silica particles and has a surface hardness above  $100\text{ N.mm}^{-2}$ .